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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,540	03/23/2004	Yusuke Ota	9319S-000698	3767

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EXAMINER
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MA, CALVIN

ART UNIT	PAPER NUMBER
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2629

MAIL DATE	DELIVERY MODE
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09/10/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/807,540	<b>Applicant(s)</b> OTA, YUSUKE	
	<b>Examiner</b> Calvin Ma	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2004.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-11 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 23 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The references listed on the Information Disclosure Statement filed on March 23, 2003 and February 16, 2006 have been considered by examiner; see attached PTO-1449.

### ***Specification***

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Mizutani et al. (U.S.P.G. Pub 2002/0093480).

As to claim 1, Mizutani discloses a display system (C), comprising: an active matrix type display panel (P); a data driver (13) that drives data lines (11) of the display panel; and a scan driver (12) that scans scan lines of the display panel (see [0052], [0053]).

Mizutani teaches the data driver (11) outputs a drive voltage (source potential 11, Fig 10) corresponding to a predetermined gray scale value (i.e. pixel electrode having different gray level) to the data lines (11) during a frame period that includes a second and subsequent frames (F12 and F21, see Fig 9), the second frame being the next frame after a first frame (F11) where a display stopping signal (whole reset timing 102) is input, then outputs a non-display voltage (ground potential) to the data lines after the frame period ends when the display stopping signal for stopping an image display of the display panel is input ([0100],[0102]), and the scan driver (12) outputs a selecting voltage (pulses in 1-st, n-th gate line) to the scan lines, and scans the scan lines during the first frame and the frame period, and outputs a non-selecting voltage to all of the scan lines after the frame period ends (i.e. black states or blank gradations) (see [0101],[0102]).

As to claim 9, this claim differs from claim 1 only in that the limitation display driver method is additionally recited in the preamble.

As to claim 10, Mizutani teaches the display system according to claim 1, wherein the display stopping signal is at least one of: an initializing signal (whole reset

timing 102) for the data driver; in which drive for the data lines is stopped (see [100],[101],[102]).

As to claim 11, Mizutani teaches the display system according to claim 1, wherein a drive voltage corresponding to the predetermined gray scale value is a drive voltage corresponding to gray scale value of 0 (black gradation, see [0101]).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizutani et al. (U.S.P.G. Pub 2002/0093480) in view of Glen et al. (U.S. Patent 6,067,083).

As to claim 2, note the disclosure of Mizutani above. This claim differs from claim 1 in that the limitation "first frame synchronization circuit", "second frame synchronization circuit" and "OFF data control circuit" are additionally recited. Mizutani teaches an OFF data output circuit (whole-reset power source) as recited in the claim (see [0101]). Mizutani does not teach "first frame synchronization circuit" and "second frame synchronization circuit." Glen does teach "first frame synchronization circuit (h-

sync delay circuit 81)” and “second frame synchronization circuit (v-sync delay circuit 83).” (see Fig 2)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the synchronization structures of Glen in addition to the display system of Mizutani in order to, “making video graphics circuits more efficient.” (Glen col. 2, lines 27-34).

Claim 5 differs from claim 2 only in that the limitation “scan driver” recited in claim 2 is deleted. Thus, claim 5 is broader than claim 2 and is analyzed as previously discussed with respect to claim 2 above.

Claims 3, 7 are analyzed as previously disclosed with respect to claim 10 because they recite the same limitations.

Claims 4, 8 are analyzed as previously disclosed with respect to claim 11 because they recite the same limitations.

As to claim 6, Mizutani teaches the data driver (13) according to claim 5, wherein the scan control signal (whole writing pulse 9) is output to the scan driver (12) that scans scan lines (8) of the display panel (P), and the scan driver (12) outputs a selecting voltage to the scan lines, and scans the scan lines based on the scan control

signal during the first frame and the frame period, and outputs a non-selecting voltage to all of the scan lines after the frame period ends (see Fig 9).

### ***Response to Arguments***

8. Applicant's arguments filed June 5, 2007 have been fully considered but they are not persuasive.

First the applicant argues with respect to claim 1, Mizutani fails to show, teach, or suggest a data driver that drives data lines of the display panel and a scan driver that scans scan lines of the display panel, wherein the data driver outputs a drive voltage corresponding to a predetermined gray scale value to the data lines during a frame period that includes a second and subsequent frames. Instead, Mizutani is directed to an RGB display.

The examiner disagrees in that Mizutani (U.S.P.G. Pub:2002/0093480) clearly teaches a grayscale value (i.e. black gradation which is one value in grayscale, since the claim clearly states grayscale value in singular form, the black gradation meets the limitation) (see [0101]) which is provided to all source line 11 in each non-display state period (see [0102]) this shows that the source value does indeed correspond to a black grayscale value (i.e. black gradation value). Also the black display state is applied to the source line 11, thus resulting in the black display state in each non-display period (F12 or F22) (see Figs 5 and 10, [0103]).

Further the applicant argues Mizutani appears to be absent of any teaching or suggestion of outputting a drive voltage to the data lines in a second frame after a display stopping signal is received. For example, the Examiner relies on reset signal 102 to disclose the display stopping signal as shown in FIG. 9. As best understood by Applicant, no drive voltage appears to be applied to the data lines during a frame F12 after the reset signal 102 is applied in preceding frame F11. As such, Applicant respectfully submits that Mizutani fails to show, teach, or suggest outputting a drive voltage corresponding to a predetermined gray scale value to the data lines during second frame after a first frame where a display stopping signal is input.

The examiner disagrees on the above point. The driving voltage is indeed present for frame F12 and F22 (i.e. source potential 11 is clearly graphed in figure 10, since potential is voltage and during the period F12 and F21 the voltage 11 is according to the black gray scale value and is constant) (see Fig. 10, [0102-0103]) and is applied to the data line. Mizutani therefore teaches outputting a drive voltage corresponding to a predetermined grayscale value (i.e. a black value) to the data lines during second frame (i.e. frame F12) after the first frame where display stopping signal (i.e. whole reset timing 102) (see Fig. 9) is input (i.e. during the second frame F12 and third frame F21 the source potential 102 is represented as a negative pulse that is applied to the data line and which is according to a grayscale value of black) (see Figs. 5, 10, [0102-0103]).



### ***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

### ***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Calvin Ma whose telephone number is (571)270-1713.

The examiner can normally be reached on Monday - Friday 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh Nguyen can be reached on (571)272-7772. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2629

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Calvin Ma  
February 28, 2007



CHANH D. NGUYEN  
SUPERVISORY PATENT EXAMINER